BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C. 20554

In the Matter of	)	
	)	
Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems	)	**CC Docket No. 94-102**
	)	
Amendment of Parts 2 and 25 to Implement the Global Mobile Personal Communications by Satellite (GMPS) Memorandum of Understanding and Arrangements	)	**IB Docket No. 99-67**
	)	

COMMENTS OF TOYOTA MOTOR NORTH AMERICA, INC.

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February 18, 2003

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Toyota Motor North America, Inc. and the U.S. affiliates of Toyota Motor Corporation, including Toyota Motor Sales, Inc. (collectively, "Toyota"), hereby offer the following comments in connection with the above-captioned Further Notice of Proposed Rulemaking (the "Further Notice").[1]

I. INTRODUCTION AND SUMMARY

Toyota is concerned that, in pursuing the important goal of promoting a robust system of emergency services deployment from a variety of different providers using radio spectrum-based services, the Commission may inadvertently stifle the expansion of telematics, which is still in early stages of development and deployment across the automobile industry.

There is no question that telematics services, which the auto industry has developed without any governmental mandate, provide valuable consumer-oriented capabilities

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[1] Revision of the Commission's Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, *Further Notice of Proposed Rulemaking*, CC Dkt No. 94-102, IB Dkt No. 99-67 (rel. Dec. 20 2002) ("*Further Notice*").

that are consonant with the public safety goals of the Commission's 911 and E911 regulatory regime applicable to wireless Commercial Mobile Radio Service ("CMRS") licensees. These services, which are delivered via a private call center network, include safety and security services such as automatic airbag deployment/crash notification ("ACN"), emergency notification services, remote diagnostics, stolen vehicle location, remote door unlock, and navigation assistance.[2]

But the mere fact that telematics devices rely upon wireless CMRS networks to facilitate customer communication should not result in the imposition of a "one-size-fits-all" regulatory approach. As a threshold matter, Toyota believes that the Commission's own general criteria for deciding whether to impose regulations, and the fact that such regulation would rely on questionable jurisdictional bases, argue against extending E911-type regulations to telematics. More importantly, subjecting emerging telematics services to detailed regimes of regulatory mandates, service configurations, and procedural rules designed to govern a well-established wireless telecommunications industry will likely do more harm than good. And such regulation is unnecessary where there have been no assertions that telematics services as currently offered inadequately serve their customers or suffer from flaws that only such regulation could address. Instead, Commission requirements would likely limit rather than promote the widespread availability of safety and security features consumers want in automobiles by adding significantly to the expense of providing and purchasing telematics service, imposing technical and/or design difficulties that are uniquely burdensome to the automotive industry and potentially delaying the transition of telematics to digital technology.[3]

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[2] *See* OnStar Petition for Declaratory Ruling, WT Docket No. 94-102 (Dec. 3, 2002) ("OnStar Petition"), at 3.

[3] The ComCARE Alliance has observed in a related proceeding that its "primary concern with telematics at the current time is that most automobile companies are not deploying these systems," and therefore "strongly

The *Further Notice* recognizes that the Commission is reviewing "services and devices that vary greatly over technologies and are at different stages of development."[4] Toyota respectfully urges the Commission to avoid overburdening and discouraging the development of the nascent market for telematics services.

II. BACKGROUND

Toyota and its affiliates manufacture and sell automobiles in the United States and throughout the world. In addition to various Toyota-branded cars and trucks, Toyota sells a line of luxury vehicles under the Lexus brand. Toyota began selling automobiles in the United States in 1957, and opened its first U.S. manufacturing facility in 1971. Currently, the company operates three vehicle assembly plants in the United States: in Georgetown, Kentucky; in Princeton, Indiana; and at a joint-venture with General Motors in Fremont, California. In February 2003, Toyota announced the establishment of a fourth U.S. vehicle production facility in San Antonio, Texas. Additionally, Toyota operates engine plants in Buffalo, West Virginia and Huntsville, Alabama, and parts facilities in St. Louis and Troy, Missouri, and Long Beach, California. At the end of 2002, Toyota employed over 30,000 Americans and invested nearly $14 billion in the United States.

As a major manufacturer and seller of automobiles under the Toyota and Lexus brands, Toyota is interested in any proposed regulation of automobile features or systems. And because Toyota offers embedded telematics services in certain of its passenger vehicles, it is

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encourages the avoidance of regulatory action that in any way discourages companies from installing these life saving systems, or makes them less effective." Comments of the ComCARE Alliance on OnStar Petition, WT Docket No. 94-102) (Jan. 24, 2003), at 3.

[4] *Further Notice* at ¶ 12.

therefore vitally interested in the *Further Notice* insofar as the Commission seeks comment on the possible regulation of in-vehicle telematics systems.[5]

Toyota began offering telematics systems in October 2000, in a single model of Lexus sedans. Toyota has since then installed tens of thousands of telematics units under the "Lexus Link" brand, and currently offers the Lexus Link System in five of its Lexus models. Toyota agrees with the Commission's assessment that there is an "expectation for future growth" in telematics offerings.[6]

In a telematics-equipped Lexus vehicle, the Lexus Link system appears as several buttons. These buttons are linked to a GPS receiver and a wireless transmitter capable of sending and receiving analog cellular signals.[7] In addition to volume controls and buttons that allow customers to record and play brief audio messages, the Lexus Link control panel has two "hot" buttons. Both connect the customer directly to Lexus Link Call Center Advisors, located at call centers in Troy, Michigan and Charlotte, North Carolina. One button, labeled "services," is used to support ordinary roadside assistance, concierge services and the like; the other, labeled with the likeness of an ambulance, is intended to be used for emergencies.[8]

Lexus Link offers a variety of features to assist and enhance its customers' driving experience. Those features currently include:[9]

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[5] *See id.* at ¶¶ 57-80.

[6] *Further Notice* ¶ 57.

[7] Toyota expects in the near future to begin using digital cellular technologies as a substitute for its existing analog platform in new installations.

[8] Lexus has contracted with OnStar Corporation ("OnStar") to provide the underlying telematics service support for Lexus Link. OnStar operates the Lexus Link call centers in Michigan and North Carolina. For information on OnStar, access http://www.onstar.com.

[9] Some of these features are standard and some are offered as part of a "premium" service package.

- **Accident Assistance:** If a customer is in an accident, a Lexus Link Advisor will assist her in collecting the information she will need for insurance documentation.

- **Automatic Notification of Airbag System Failure:** Lexus Link can detect a possible airbag system failure. If this should occur, it automatically sends a signal to the Lexus Link Call Center, which contacts the customer, apprises her of the situation and directs her to the nearest Lexus dealer.

- **Automatic Notification of Loss of Battery:** If a Lexus experiences a sudden loss of battery voltage with the ignition on, the Lexus Link system automatically sends a signal to the Lexus Link Call Center, which then contacts the customer and obtains emergency or automotive service as needed.

- **Airbag Deployment Notification:** Whenever an airbag deploys the Lexus Link system automatically sends a signal to the Lexus Link Call Center, which then contacts the customer and, if appropriate, alerts emergency personnel and the customers exact location will be provided.

- **Concierge Services:** The Lexus Link Advisor can make reservations such as at restaurants or hotels, or purchases such as gifts or concert tickets. It can even take care of party planning or catering, or schedule personal salon services. This service is available on the road and from home.

- **Convenience Services:** The Lexus Link Call Center can direct a customer to a variety of business locations - such as the closest hotel, ATM or service station.

- **Emergency Services:** A customer in need of emergency services can press the Lexus Link Emergency button, which connects her to a Lexus Link Advisor who will assess the situation and if appropriate then contact emergency personnel about her circumstances and location.

- **Remote Door Lock/Unlock:** If a customer is locked out of her Lexus, or has accidentally left it unlocked, she can call Lexus Link, toll-free, and an Advisor will use remote functions to unlock or lock her car.

- **Ride Assist:** If, for any reason, a customer is unable to drive, or if her Lexus is not functioning, the Lexus Link Advisor can contact a cab or even a friend or relative who can provide a ride.

- **Roadside Assistance:** Lexus Roadside Service is dispatched when a car needs to be towed, have a flat tire changed or the like.

- **Route Support:** A lost customer can contact the Lexus Link Call Center, which can use the on-board GPS system technology and digital maps to determine customer's location and give her directions to where she is traveling.

- **Theft Notification and Stolen Vehicle Tracking:** Lexus Link can determine whether a vehicle's alarm has been activated and can locate a car to aid the authorities in the recovery of a stolen vehicle.

Toyota expects that as technology evolves and consumer desires make themselves known, additional features and services will be made available in the future.

Lexus Link has proven to be popular among consumers. Available in only one model in its first year, 2000, the Lexus Link offering was expanded to be available in five models for the year 2003. Customers benefit not only from features such as Route Support and Concierge Services, which enhance the experience of traveling in a Lexus, but also from safety and security features such as Airbag Deployment Notification, Roadside Assistance, Stolen Vehicle Tracking, and Emergency Services.

III. THE COMMISSION SHOULD NOT REGULATE TELEMATICS SERVICES

A. Telematics Services Do Not Meet The Commission's General Criteria For Imposing 911 And E911 Regulatory Requirements

The *Further Notice* begins by articulating a four-factor, general methodology that is intended to guide the Commission's decision as to whether to impose emergency service regulatory requirements on different types of providers and technologies. The factors are: (1) does the service offer a real-time, two-way voice service that is interconnected to the public switched telephone network ("PSTN") on either a stand-alone basis or packaged with other telecommunications services?; (2) do the customers using the service or device have a reasonable expectation of access to 911 and E911 services?; (3) does the service compete with traditional CMRS or wireline local exchange services?; and 4) is it technically and operationally feasible for the service or device to support E911?[10]

[10] *Further Notice* at ¶ 13.

Toyota believes that these criteria are useful in evaluating the propriety of the Commission's extending E911 regulatory rules to specific technologies and services. Analyzing telematics under this four-factor test invariably leads to the conclusion that telematics should not be subject to explicit 911 and E911 regulatory requirements.

1. Telematics services generally do not offer real-time, two-way interconnected voice services

Telematics service providers do not hold themselves out to the public generally as providers of two-way voice services that are interconnected to the PSTN. The telematics services Lexus Link currently offers are all call-center based services that are akin to services provided by private networks. A subscriber can only communicate with the call center service bureau and not the outside world.

While it is true that a suite of in-vehicle telematics services may include an untethered calling capability interconnected with the PSTN, this fact does not and should not automatically trigger regulation of telematics units. Toyota's Lexus Link service, for example, offers an extensive list of call center-based services that are location-based or interactive with the vehicle, but that are not voice services interconnected directly with the PSTN. While there is a specific voice offering in some telematics service packages, such as the OnStar Personal Calling service, this service cannot be accessed until a subscriber has first contracted for OnStar's location-based safety and security call center services, including automatic airbag deployment/crash notification and emergency services.[11] As such, it is "clearly ancillary" to

[11] OnStar Petition at 4.

OnStar's cornerstone location-based telematics safety and security services,[12] and a "complement" to OnStar's "core suite of services."[13]

2. Customers using telematics devices do not have a reasonable expectation of access to 911 and E911 services

Toyota does not believe that consumer expectations support the extension of E911 rules to telematics services. Telematics services, as of now, are built primarily around a call center "dispatch" model. Telematics services are focused on integrating a variety of services into the electrical architecture of an automobile, and are focused on a variety of automotive-oriented features.

While telematics users often subscribe to such services for safety and security reasons, these users expect to speak with a Lexus Link Call Center, rather than connecting to a 911 PSAP. Indeed, customers that purchase the Lexus Link supplementary service are reminded of this fact each time a Lexus Link button is pushed because the standard call center staff's introductory statement is "Lexus Link, this is [Advisor's name]. How may I help you [Mr./Mrs./Ms. Name of Primary Driver]?"

Consumers have the opportunity when purchasing certain Lexus vehicles to select wireless mobile telephony and/or the Lexus Link system,[14] and must order and purchase them separately as optional equipment. The fact that many consumers select both a telephone and telematics services indicates that consumers expect and desire inherently different services and features when purchasing telematics devices – *i.e.*, consumers do not expect Lexus Link merely to replicate the emergency dialing features of a wireless telephone handset.

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[12] OnStar Petition, Comments of ComCARE Alliance at 6.

[13] OnStar Petition, Comments of Verizon Wireless at 2.

[14] Wireless mobile telephone option is currently available on Lexus LS, SC, LX and GS models. Lexus Link option is currently available on LS, SC, LX, GX, and RX models.

A brief examination of the Lexus Link marketing and post-purchase materials also demonstrates that consumers are unlikely to confuse Lexus Link with mobile telephony, or to expect that they will be able to dial "911." The sales brochure for the LS sedan, for example, clearly indicates that all services are provided through a dispatcher, stating that "[w]ith the push of a button you can contact a Lexus Link advisor who can send emergency services to your location, dispatch Roadside Assistance, or guide you to a destination." The Lexus Link pamphlet echoes this language. Likewise various post-purchase materials reinforce the concept that (in the words of the Owner's Manual) Lexus Link serves only to "connect[] to the Lexus Link Call Center which will assist you and/or send help." And to reinforce the point that these services are not to be confused with any form of wireless mobile telephony, the Lexus Link Subscription Agreement states in bold-face type that "[t]he Unit is not a cellular telephone and does not allow for placing or receiving of calls from anyone other than the Lexus Link Call Center."

Clearly, consumers that purchase a telematics service that provides a safety and security call center system are choosing and expecting something quite different than an E911-enabled wireless telephone and are willing to pay extra for such supplemental services. Consumer expectations, therefore, weigh against overruling a telematics customer's purchasing decision by imposing "a different set of performance requirements than the individual has chosen."[15]

3. Telematics services plainly do not compete with traditional CMRS or wireline local exchange services

Telematics services clearly are not a substitute for either traditional CMRS or wireline local exchange services. A telematics device bears little resemblance to a car phone,

[15] OnStar Petition, Comments of Motorola at 2.

bag phone or other type of wireless handset, and the services offered cannot readily be substituted for wireless or landline voice telephony. A wireless telephone that is not integrated into the vehicle electrical system cannot facilitate remote locking or unlocking of vehicle doors, permit automatic notification of changes in automotive features of a vehicle or support other similar yet undiscovered applications of the telematics technologies. Lexus offers both mobile phones and telematics devices; many customers purchase both, and few would consider one a substitute for the other. Indeed, every Lexus Link customer must confirm this understanding by signing an agreement that states in part that Lexus Link "is not a cellular telephone" and does not function as such.

Telematics is a complement to, not a substitute for, mobile telephony. Telematics devices focus on the unique features of the driving experiences and integrate with the automobile systems. This factor therefore clearly argues against the imposition of regulation on telematics devices.[16]

4. It is neither technically nor operationally feasible for telematics devices to support 911 and E911

There are several factors that render it technically and operational infeasible, at least in the short- to mid-term, for telematics devices to support strict 911 and E911 functionalities. One major factor is the automotive product lifecycle.

Telematics units do not have short product cycles like wireless handsets. Telematics units cannot be swapped out of vehicles every one-two years or readily retrofitted. They are, instead, subject to the extensive validation and phase-in requirements that are generally required for integrated electronic automotive features. The product cycle of a Toyota or Lexus vehicle is typically five years or longer, depending on its sales volume and market conditions.

[16] To the extent that some telematics devices may also come bundled with bona fide CMRS devices, that does not render the telematics device, as such, a CMRS device or service.

Changes to electronic devices that involve redesigns of a vehicle's architecture and wire harness are extremely difficult to make within the vehicle product cycle. In addition, the lifecycle of a vehicle on the road often exceeds ten years.[17]

While the Commission in another context has characterized such product and development cycles as "voluntary business decisions" and "considerations within the control of the individual [telematics] provider or original equipment manufacturer,"[18] the fact remains that the relative absence of FCC regulation of telematics has been a major factor dictating those business decisions. A dramatic regulatory change such as the extension of E911 requirements to telematics poses a potentially enormous problem with respect to vehicles in which telematics units are already deployed or planned to be deployed in accordance with the ordinary automotive product development cycle. At a minimum, any plan to extend an E911 regulatory regime to telematics units would need to accommodate the nature of the telematics and automotive businesses and be phased in accordingly.

Likewise the proposed regulations present technical and operational concerns, as well. For example, the existing Lexus Link telematics device uses an autonomous GPS unit. The GPS unit interfaces with the Lexus Link Call Center's application software to locate the vehicle on a map, displayed on the Call Center operator's computer screen. But while this technology is extremely well suited for navigation purposes on public roads, such as providing driving directions and points of interest information, it is not designed to locate a mobile device using E911, Phase II requirements such as Assisted Global Positioning Systems ("AGPS"),

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[17] Furthermore, as Verizon Wireless notes, customers "who have spent thousands on a vehicle with an in-vehicle telematics device are unlikely to spend additional sums to swap out the device for something different when the device already provides access to emergency help and location services." Comments of Verizon Wireless at 3.

[18] In the Matter of Year 2000 Biennial Review, WT Docket No. 01-108, Report and Order (rel. Sept. 24, 2003), at ¶ 19.

Assisted Forward Link Trilateration ("AFLT"). Upgrading the current methodology Lexus Link uses to provide route support to meet E911, Phase II requirements involves significant re-engineering to the telematics device. And at a minimum, that would require replacement of the autonomous GPS unit with a GPS receiver and technology compatible with whatever Phase II solution was adopted by the underlying wireless carrier as well as providing an interface to the wireless component to communicate the location information over-the-air. This would present a difficult technical challenge in itself. But in addition to the difficulty inherent in redesigning and replacing the existing technology, because telematics systems attempt to maximize coverage by roaming on the systems of several different carriers, it would require that the telematics device accommodate all of the Phase II solutions adopted by each of those different carriers. That is, it might require compatibility with Enhanced Observed Time Difference of Arrival ("EOTD"), Assisted Global Positioning Systems ("AGPS"), Assisted Forward Link Trilateration ("AFLT"), and other Phase II solutions, if the device is to remain capable of roaming on these various systems in order to comply with the FCC E911 mandate. Indeed, in this sense, telematics service providers would be subject to E911 compliance burdens well beyond those of any other mobile station.

Routing such calls through the PSAP, rather than through a call center, would also increase the burden on already financially-challenged public safety entities. Individuals often consider it an "emergency" when they run out of gas on an isolated stretch of highway, or have a flat tire at night. When such a person presses the "emergency" button, Lexus Link is able to evaluate the situation and contact Roadside Assistance rather than a PSAP. Requiring a telematics device to route the call directly to the PSAP would force PSAPs to accept the cost of

such non-emergency calls, as well as accidentally dialed and emergency repeat calls that currently add additional stress to the nationwide system.

The Commission's general criteria do not support an extension of E911-like regulatory requirements to telematics providers. Toyota therefore urges the Commission not to do so.

B. The Commission Lacks An Adequate Statutory Basis Upon Which To Regulate Telematics Service Providers

The *Further Notice* asks whether the FCC has the statutory authority to regulate telematics services as a "commercial mobile service" or otherwise.[19] In addition to the application of the FCC's general methodological criteria discussed above, which argues against FCC regulation of telematics services and devices, Toyota believes that the jurisdictional bases cited in the *Further Notice* for extending basic and enhanced 911 (or similar) requirements to telematics devices are suspect and cannot be invoked to extend regulation to telematics services.

1. Telematics is not a "Commercial Mobile Service"

In seeking comment on whether it may regulate telematics services, the *Further Notice* reasons:

> [T]he "authority of the Commission has pursuant to section 201(b) of the Communications Act of 1934, as amended (the Act), extends to commercial mobile services by operation of section 332 of the Act. "Commercial mobile service" is defined as "any mobile service (as defined in section (3)) that is provided for profit and makes interconnected service available (A) to the public or (B) to such class of eligible users as to be effectively available to a substantial portion of the public." Therefore, at least insofar as telematics service providers offer a mobile service to the public for profit or offer a functionally equivalent service to the public, it

[19] *Id.* at ¶ 77.

> appears that they are to be treated as a commercial mobile service provider."[20]

Toyota believes that the above tentative conclusion in the *Further Notice* that telematics is "Commercial Mobile Service" is flawed in several respects.

First, while telematics possibly may meet the definition of a "mobile service,"[21] as pointed out in Section III.A above, telematics services are call center-based and are not generally intended to make "interconnected service" available to the public.[22] Again, Lexus Link does not allow customers to place phone calls; it simply allows them to contact a call center. Because telematics units generally do not provide "interconnected service" to customers they cannot be considered – or subjected to regulation as – a "Commercial Mobile Service"[23] or a "Commercial Mobile Radio Service."[24]

Similarly, telematics is *not* made "available to the public" or "effectively available to a substantial portion of the public," but is sold only as an optional service under very limited circumstances. Telematics devices are only sold embedded in and integrated with an

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[20] *Id.*

[21] A "mobile service" is defined under the Communications Act as a "radio communication service carried on between mobile stations or receivers and land stations, and by mobile stations communicating among themselves, and includes (A) both one-way and two-way radio communication services, (B) a mobile service which provides a regularly interacting group of base, mobile, portable, and associated control and relay stations (whether licensed on an individual, cooperative, or multiple basis) for private one-way or two-way land mobile radio communications by eligible users over designated areas of operation, and (C) any service for which a license is required in a personal communications service established pursuant to" the Commission's PCS proceedings. 47 U.S.C. § 153 (27).

[22] Once again, while it is true that a particular type of telematics service exists that can provide direct tetherless access to the PSTN, such a service is plainly ancillary to the core suite of call center-based services offered by telematics service providers and should not trigger a different regulatory classification.

[23] 47 U.S.C. § 332.

[24] 47 C.F.R. § 20.3.

automobile, which can cost in excess of $60,000.[25] And indeed, to date, telematics services are available only among limited auto brands and models.

Moreover, the purchaser of a particular automobile has no choice over the telematics service (if any) that may be available as an option with that vehicle. A Lexus customer cannot purchase TeleAid (the Mercedes telematics provider) and a Mercedes customer cannot purchase Lexus Link, and neither can be purchased except as a feature embedded in an automobile.

Thus, fundamental characteristics of CMRS (and Title II) regulatory classification are missing with respect to telematics services.

2. Telematics is more appropriately thought of as an "Information Service"

As a call center-based service, telematics offers to customers the ability to "acquire[]" or "mak[e] available information" using an underlying "telecommunications"[26] capability.[27] Telematics accordingly can and should be thought of as a classic "information service" that generally is not regulated by the Commission.

Service classification does not depend "on the particular types of facilities used."[28] Rather, the classification of a service (as a "telecommunications service" or an

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[25] The average MSRP of a fully equipped Lexus vehicle as of February, 2003 with the Lexus Link option is $65,108. Information on MSRP pricing for the LS, SC, GX, and LX can be obtained at http://www.lexus.com. The RX 330 with the Lexus Link option, including MSRP pricing information, will be released to the public later this year.

[26] "Telecommunications" means the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information sent and received." 47 U.S.C. § 153 (43).

[27] *See* 47 U.S.C. § 153(20) (definition of "information service").

[28] Inquiry Concerning High-Speed Access to the Internet over Cable and Other Facilities, *Declaratory Ruling and Notice of Proposed Rulemaking*, FCC 02-77 ¶ 35 (rel. Mar. 15 2002) ("*Cable Modem NPRM*").

"information service," for example) "rests on the function that is made available." [29] Thus, though cable broadband providers have a "telecommunications component," and indeed provide traditional voice telephony in addition to data transmission,[30] theirs is an information service because the "single integrated service" offered to the end user includes significant elements related to the storage and retrieval of information.[31]

Likewise, telematics services involve the transmittal of information "via telecommunications," but are ultimately offerings by which the customer is able to transmit and access information.[32] It is not common carriage.[33] The essence of telematics is providing an interactive exchange of content from automobile to call center — from commands to unlock a car remotely, to guiding a lost motorist to her destination. Telematics is an information service and is not appropriately classified otherwise.

3. Telematics units are not "customer premises equipment"

The Commission also cannot regulate vehicle-embedded telematics devices as "customer premises equipment."[34] The Communications Act defines customer premises equipment to mean "equipment employed . . . to originate, route, or terminate

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[29] *Id. See also, e.g., . Universal Service Report*, 13 FCC Rcd at ¶ 59 (noting "Congress's direction that the classification of a provider should not depend on the type of facilities used ... [but] rather on the nature of the service being offered to consumers.").

[30] *Cable Modem NPRM* ¶¶ 44-47.

[31] *Id.* ¶¶ 38-39.

[32] To the extent that telematics might be considered a "mixed or hybrid service," meaning one for which "an inseparable part" is that it "transmits information supplied or requested by the user," the Commission has concluded unequivocally that "hybrid services are information services, and are not telecommunications services." Federal-State Joint Board on Universal Service, *Report*, 13 FCC Rcd 11501 ¶¶ 56-57 (1998) ("*Universal Service Report*").

[33] *See* 47 U.S.C. § 153(10).

[34] *Further Notice* ¶ 79.

telecommunications."[35] Once again, because the interactive communication between driver and call center is not passive but fundamentally content-based, it is not "telecommunications" (though it acts *via* telecommunications), and the device that provides that interaction is not "customer premises equipment."

Nor is this a hollow distinction, for telematics units are utterly unlike traditional customer premises equipment. Telematics equipment used by Lexus Link can only call a single number and lacks any type of keypad that would allow a customer to dial 9-1-1 or any other number. It can only use a single, pre-programmed wireless network. It is embedded into automobiles and not sold separately. It is not replaceable or changeable, as it is physically, electrically and electronically integrated with in-vehicle power, audio, antenna and grounding systems, as well as various in-vehicle sensors. In short, telematics services and devices are quite unlike the services and devices over which the FCC ordinarily has jurisdiction.

Telematics services are not "commercial mobile services," or "telecommunications services" of any sort, and telematics devices are not "customer premises equipment." They are a unique type of information service that is not appropriately regulated by the Commission.

IV. SPECIFIC ISSUES RAISED IN THE *FURTHER NOTICE* HIGHLIGHT THE NEED FOR A DEREGULATORY APPROACH TO TELEMATICS

The basic question posed by the *Further Notice* is whether and to what extent telematics devices should be required under an E911-like regime to perform certain safety-related functions. Toyota remains committed to safety, but believes that in this case safety can be and indeed has been enhanced through private enterprise unfettered by unnecessary regulatory mandates. Toyota would urge the Commission to avoid stifling innovation and burdening

[35] 47 U.S.C. § 153(14).

telematics devices with ill-advised regulations, and above all to avoid imposing a "one size fits all" regulatory solution. To do so would only hinder innovation in this rapidly-evolving field, and would burden the nascent industry with additional costs and technical difficulties, and ultimately harm consumers.

Basic economics dictates that any incremental increase in the price of telematics – or in any other good or service – will at the margins reduce the number of units sold. What might seem to be an improvement in safety, then, could actually decrease safety if the price of that improvement causes consumers to forego telematics entirely, and thus to forego the safety benefits now offered by telematics – features like Ride Assist that provides fatigued persons with an alternative to driving, Automatic Airbag Failure Notification that advises a driver if the airbag system may be in need of service, the Emergency Services function, and the like. Likewise on the other side of the equation, imposing significant regulatory (and therefore technical and economic) burdens on telematics providers could render potential – and perhaps even existing – providers unwilling to make the capital and operational investment necessary to provide these services. That is, if regulations require upgrades to call centers, or the expensive redesign of existing equipment, providers might elect to avoid such capital investments, and cease offering telematics services as an option on their vehicles.

If the Commission concludes that it has the power to regulate telematics, it should carefully consider the cost of any regulations, and should avoid overburdening telematics with costly mandates. Toyota offers further comment echoing this theme with respect to specific issues below.

A. The Dispatcher Model is Adequate

The *Further Notice* asks whether the "dispatcher" model should be the "primary manner in which emergency services are offered to users of telematics systems."[36] To be sure, the dispatcher model – where a customer presses a hot button, which connects her to a call center, which then summons appropriate emergency services – is a proven, effective way to provide emergency services to telematics users. Moreover, as the Commission recognizes, the dispatcher model works to the advantage of public safety responders by screening out erroneous or non-emergency calls, thus allowing them to spend more time answering genuine emergencies.[37] However, the Commission should not mandate any particular model of emergency services for telematics. Market forces have proven capable of devising one effective means of summoning emergency services, and it is entirely possible that the market could develop something even better. There is no reason to require telematics systems to adhere to a particular method of summoning emergency services.

B. The Commission Should Not Mandate the Electronic Relay of Emergency Information.

The Commission notes that a telematics service may be capable of delivering various types of information directly to a PSAP – such as speed at time of impact, airbag deployment, vehicle damage, number of passengers, and similar information – that could assist emergency responders.[38] While it is possible that someday a telematics service may be able to automatically relay location and call back information to a PSAP, or even perhaps relay such additional information, these capabilities are not available on Lexus Link today.

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[36] *Further Notice* ¶ 65.

[37] *Further Notice* ¶ 66.

[38] *Further Notice* ¶¶ 67, 74-75.

The Commission should not *require* telematics providers to introduce these sorts of capabilities, especially when the ability of PSAPs to receive or make use of such information remains unclear, and when consumers can today purchase a car equipped with an E911-capable phone if they choose to. To do so would, at minimum, (1) delay the implementation of currently planned upgrades of telematics services to digital technology, (2) add expense that might put telematics beyond the reach of many consumers, and (3) give rise to technical difficulties that could hinder the overall development of telematics services.

Nor should the Commission institute a particular protocol or standard for the relay of electronic information from telematics providers to PSAPS. The industry and PSAPs should be allowed, working in conjunction with each other, to develop any such standard they deem appropriate, and there is no need for the Commission to intervene at this point. Likewise, neither telematics providers nor PSAPs should be required at this time to modify their systems to transmit or receive such electronic information.

C. The Commission Should Not Regulate Consumer Notifications.

The *Further Notice* seeks comment on what sort of consumer notification, if any, should be made by telematics providers under the provisions of section 20.18(k) of the Commissions Rules.[39] As an initial matter, telematics services generally utilize a call center dispatcher but are not "dispatch services" as defined by the Commission. They therefore are not subject to the requirements of Section 20.18(k) of the Commission's Rules, which applies by its terms only to providers "who offer[] dispatch services."[40]

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[39] *Further Notice* ¶ 70.

[40] 47 C.F.R. § 20.18(k).

The Commission defines "dispatch service" to mean "[a] radiotelephone service comprising communications between a dispatcher and one or more mobile units. These communications normally do not exceed one minute in duration and are transmitted directly through a base station, without passing through mobile telephone switching facilities."[41] Dispatch service is typically used by taxicabs and delivery trucks, and is now somewhat less frequently offered as a commercial service.[42] Unlike dispatch service, telematics services do not transmit directly through a base station. They instead pass through mobile telephone switching facilities, and thus do not meet a fundamental component of the Commission's definition. Telematics is not dispatch service, and it is not subject to those rules – including § 20.18(k) – that pertain only to dispatch.

More important, there is no policy need to regulate consumer disclosures in this regard. The basic mode of operation for a telematics service is that it connects customers with a central dispatcher, and no customer is likely to develop a contrary understanding. Indeed, customers that purchase the Lexus Link supplementary service are reminded of this fact each time a Lexus Link button is pushed because the standard call center staff's introductory statement is "Lexus Link, this is [Advisor's name]. How may I help you [Mr./Mrs./Ms. Name of Primary Driver]?" The telematics unit has no keypad; consumers do not expect to be able to dial 9-1-1. The basic point of the Lexus Link service – made plain through an abundance of statements in marketing materials, the signed services agreement, and in the description of the service itself – is that it connects the customer to a central call center, which then is able to

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[41] 47 C.F.R. § 22.99.

[42] *See generally, e.g.*, Chadmoore Wireless Group, Inc. and Various Subsidiaries of Nextel Corp., *Memorandum Opinion and Order*, WT. Dkt. No. 01-193, 2001 FCC Lexis 6514 (rel. Nov. 30 2001) (authorizing license assignment from Chadmoore, a dispatch provider, to Nextel)

render various forms of assistance – from providing driving directions, to calling a tow truck, to calling an ambulance. The Lexus Link literature, for example, states that "[i]f you push the button for the Lexus Link system or in an emergency such as a vehicle accident . . . you are instantly connected to the Lexus Link Call Center which will assist you and/or send help." Nowhere is there any indication that a customer can contact 9-1-1 directly, and there is no real likelihood of customer confusion on this point. Commission regulation of consumer disclosures with respect to telematics is unnecessary.

D. Long Product Life-Cycles Preclude Effective Regulation

In connection with the notion that the Commission might impose some regulatory mandates on telematics providers, it seeks comment on "how life cycle development factors for both vehicles and the telematics systems to be installed may affect any implementation time frames to be considered."[43] This is a critical point: the extremely long product life cycles of cars (and therefore telematics units) would make Commission regulation difficult and unwieldy. The product cycle of a Lexus vehicle – that is, the time during which a particular vehicle is manufactured and offered for sale without substantial re-design – is typically five years or longer, depending on its sales volume and market conditions. Thus, for example, because the Lexus LS 430 is currently in the middle of its product cycle, Toyota would not be able to make any substantial changes to its telematics unit until the beginning of its next product cycle. Changes to electronic devices that involve redesigns of a vehicle's electronic architecture and wire harness are difficult to make within the vehicle product cycle. Moreover, the Commission must recognize that substantial product development lead-time is necessary before the product life cycle begins. Particularly because of the extensive testing of safety and reliability that must

[43] *Further Notice* ¶ 72.

precede release of a new vehicle, it typically takes three years or more for a vehicle redesign to go from the drawing board to the show room. So a model that has been in the showroom for five years actually would be based on eight-year-old designs. This dictates that the Commission cannot reasonably expect auto manufacturers to be in compliance with a particular regulation any earlier than eight years from its promulgation.

In addition to the product cycle realities, the Commission needs to acknowledge the relative durability of automobiles. Toyota vehicles have the potential to last for years, and often decades. Adoption of new standards upon telematics devices integrated in vehicles cannot ignore legacy technologies. Mandates upon vehicles cannot be implemented like regulations upon readily replaceable handsets. The Commission, at minimum, should avoid imposing obligations on existing telematics equipment and users with which it might be impossible to comply. Instead, the Commission should recognize that the telematics industry has been and is moving responsibly and in step with the peculiarities of automotive research, design, testing, deployment and implementation realities. Regulation at this time would be ill-conceived and is not necessary, and could, in fact, impede much needed innovation and "real world" experimentation as to the best means to support public safety through telematics systems technologies.

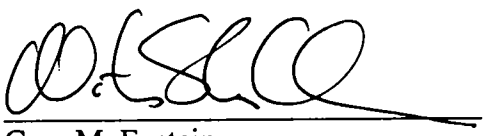
V. CONCLUSION

Telematics services offer numerous benefits to consumers. They provide conveniences from Remote Door Unlock to Concierge Services, as well as various features that enhance safety and provide access to emergency services. They are not cellular phones, nor any other form of telecommunications service, but rather are a novel form of information service. The market has developed this unique product without regulatory intervention, and regulatory intervention at this point would be unnecessary and unwise. The Commission should avoid

saddling telematics with burdensome regulations, and thereby potentially inhibiting the development of these services, or discouraging their widespread adoption.

Respectfully Submitted,

TOYOTA MOTOR NORTH AMERICA, INC.

By: 

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February 18, 2003